AGENDA
CITIZENS UTILITY ADVISORY BOARD

Wednesday, September 7, 2011
6:00 p.m.

JOHNSON CREEK FACILITY CONFERENCE ROOM
6101 SE JOHNSON CREEK BLVD.

I.	CALL TO ORDER	CUAB Chair
II.	INTRODUCTIONS	CUAB Chair
III.	CONSENT AGENDA	CUAB Board
	A. Approve Minutes from August 3, 2011	
IV.	REPORTS	
	A. Review Water Master Plan Rate Study (Motion on preferred alternative)	Zach Weigel, Civil Engineer
V.	DISCUSSION (Executive Session per ORS 192.660(2)(h)	
	A. Wastewater Treatment issues (Additional material to be provided at meeting)	Mayor Jeremy Ferguson
VI.	MATTERS FROM THE BOARD	CUAB Members
VII.	OTHER	
VIII.	INFORMATION SHARING	ALL
IX.	FUTURE MEETING DATE/AGENDA ITEMS	ALL
	Next meeting: Wednesday, Sept 21, 2011 (County Commissioner Paul Savas in Executive Session)	
X.	ADJOURN	

CUAB MEETING MINUTES
Wednesday, August 3, 2011
Johnson Creek Facility Conference Room
6101 SE Johnson Creek Blvd.

Members Present
Charles Bird, Chair (by Skype)
Beth Kelland, Vice Chair
Bob Hatz
Mike Scolar

Staff Present
Zach Weigel, Civil Engineer

Others
Walt Meyer, Water Master Plan consultant

I. CALL TO ORDER

Chair Bird called the meeting to order at 6:07 p.m.

II. INTRODUCTIONS (Zach and Walt introduced)

III. CONSENT AGENDA

Minutes from the May 4th, 2011 and July 1st, 2011 meetings were approved.

IV. REPORTS

A. Review Water Master Plan
Zach began with overall schedule of the plan. It started 18 months ago with the scope, in October it will be presented to the Planning Commission for acceptance and in November/December to the City Council for adoption. Findings: no need to expand storage, no new wells to handle expansion to DIA "A" and "B". Zone 3 doesn't have sufficient fire flow (need to add pumping capacity).

Walt discussed the model, shared that there are 10,800 water system EDUs, rate comparison shows Milwaukie on the low side of area. The pipe materials are estimated to have a life of 50 to 75 years, cast iron is 50 years, steal is 40 years and ductile iron is 75 years. The life of the pipe is influenced by soil conditions and interior rusting (was it coated?). Walt mentioned that the cement lining in ductile iron pipe and protection from electrolysis (with cathodic protection for example) can extend the life. These measures are current practice but lacking from older (pre 1970) pipes.

Comments:
- Mike asked about bonds to pay for replacement, Walt replied that the City's fiscal policy stipulates pay as you go unless it makes sense to borrow.
- Beth stated that our system is not in horrible state yet; Mike asked if we are in bad shape, Charles replied that our system is okay, not an emergency, and that we shouldn't borrow to maintain the system. There was some talk about the age of the system, and Zach mentioned that the City is spending and increasing amount of time on main break repairs.
- Walt stated that rates are usually lower without borrowing.

The Board was asked to review the rate information and that it would be brought back for their consideration at the next meeting.

V. MATTERS FROM THE BOARD
No discussion

VI. OTHER

VII. INFORMATION SHARING ALL

VIII. FUTURE MEETING DATE/AGENDA ITEMS ALL

Gary discussed the need to meet before the September meeting and hear from the Mayor about the latest info from the wastewater treatment debate with the County. Commissioner Paul Savas would then present information from the County in a following meeting.

The meeting was abruptly ended prior to setting the dates for the meeting (later set for September 7th and September 21st)

IX. ADJOURN

The meeting ended at 8:20 p.m.

Beth Kelland, Vice Chair (for the Chair) Gary Parkin, Scribe

WEST YOST ASSOCIATES

TECHNICAL MEMORANDUM

DATE: July 29, 2011 Project No.: 382-03-10-13

TO: Mr. Zachary Weigel

FROM: Walt Meyer, P.E., R.C.E. #10945

SUBJECT: Water System Rate Study

This technical memorandum presents an evaluation of the City of Milwaukie water rates based on current levels of service and costs, existing rates and the need for additional revenue to meet both capital needs and water program demands. This includes and evaluation of the rate base, historical revenues and costs, revenue and cost projections and an analysis of the financing capacity that the City will have with various rate scenarios. The following sections are included:

- Rate Payer Base
- Historical Water Fund Revenue and Costs
- Existing Rates
- Capital Improvement Plan
- Financing
- Water Fund Cost Projections
- Recommended Rates
- System Development Charge

RATE PAYER BASE

The water customer profile in the City of Milwaukie is dominated by single family residential rate payers but also includes a mix of multi-family and commercial customers. A summary of users is shown in Table 1.

Table 1. Existing Number of Service Connections by Revenue Class

Revenue Class	Number of Connections	Percent of Total Connections
Residential	5,971	88
Multiple Density Residential	314	5
Commercial	502	7
Total	**6,787**	**100**

In order to evaluate water revenues from all customers and evaluate rate impacts, it is useful to consider the rate payer base in terms of equivalent single family dwellings (ESFDs). Table 2 presents data for Fiscal Year 2009-10 that indicates the total number of existing ESFDs and the average rate of revenue per ESFD. This data indicates that average single family customer paid $205 per year for water service. The average single family customer uses 750 cubic feet or 5,600 gallons of water per month.

Table 2. Equivalent Single Family Dwelling in 2010

Number of 5/8" and 3/4" Meter Accounts	5,826
Revenue from 5/8" and 3/4" Meter Accounts, dollars	1,193,880
Average Annual charge per 5/8" and 3/4" Account, dollars	205
Total Revenue from User Fees, dollars	2,212,000
Equivalent Single Family Dwellings	10,794

It is expected that the number of users served by most water system will continue to grow with overall system water demand and revenues from water rates can be expected to increase comparably over time. However, growth in the City of Milwaukie has been flat and for purposes of projecting revenues, no growth should be assumed. This is supported by recent history for which the number of accounts has not grown.

HISTORICAL WATER FUND REVENUE AND COSTS

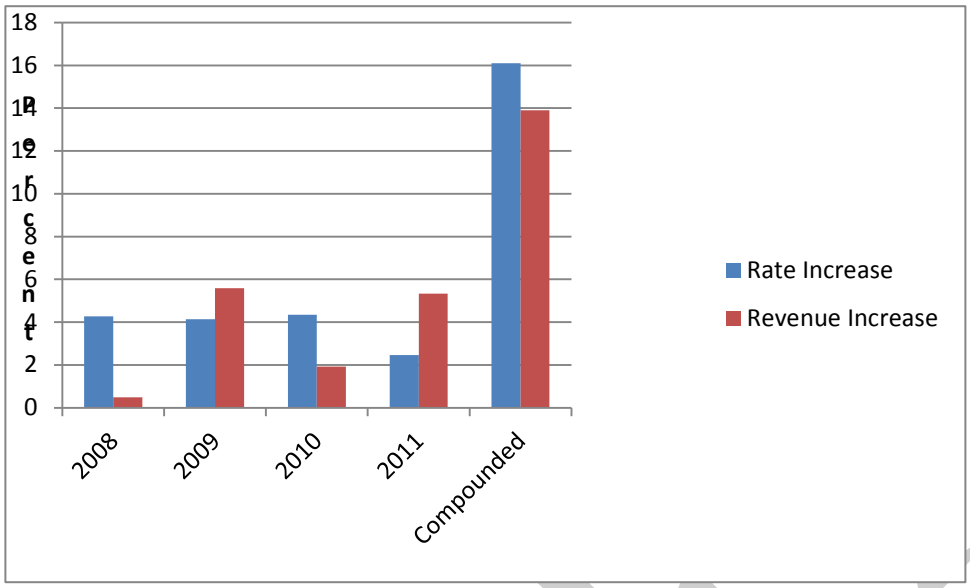
Both revenue and cost projections for the City's Water Fund are used to assess the City's capacity to fund future capital projects. Historical revenue and costs are instructive for estimating future revenue and cost once program changes such as staffing levels and rates are incorporated. Table 3 shows six years of revenues and costs and is based on the most recent budget.

From 2006-07 through 2010-11, the City increased water rates each year for a compounded rate increase of about 16 percent. However, revenue did not increase at the same rate. There are several factors that influence the revenue including weather, water conservation programs and rate sensitivity. Figure 1 shows the relationship between rate increases and revenue increases during this period. Since Fiscal Year 2011 is based on six months of actual revenue, the final compounded includes a projection of the final 2011 results. Some rate elasticity should be anticipated as future projections are made.

Table 3. Historic Revenue and Costs

	FY06	FY07	FY08	FY09	FY10
Resources					
Beginning Fund Balance	$884	$475	$875	$708	$119
Water Charges - Base	1,839	2,046	2,056	2,171	2,212
Interest	26	33	27	11	3
Miscellaneous	24	27	34	44	44
Franchise Fees (External)	1	278	3	18	16
Debt Proceeds	10	34	-	-	-
Transfers from Other Funds	239	504	81	-	490
Water Charges - Base	1,839	2,046	2,056	2,171	2,212
Total Revenues	**2,139**	**2,922**	**2,201**	**2,244**	**2,765**
Total Resources	**$3,023**	**$3,397**	**$3,076**	**$2,952**	**$2,884**
Requirements					
Personal Services	$364	$356	$430	$463	$480
Materials & Services (Base)	378	427	310	235	241
M&S (Franchise Fee to Streets)	127	171	157	164	199
M&S (Electricity Costs)	126	139	158	161	166
M&S (Internal Service Charges)	396	395	427	460	480
Debt Service	130	130	134	133	131
Transfers to Other Funds Capital Outlay	458	597	443	420	806
Scheduled Capital Projects	569	307	309	797	94
Total Expenditures	**2,548**	**2,522**	**2,368**	**2,833**	**2,597**
Ending Fund Balance					
Policy requirement (25%)	348	372	371	371	392
Reserve for debt service	134	134	134	134	
Reserves for capital					
Over (under) Policy	(7)	369	203	(386)	(105)
Total Ending Fund Balance	**475**	**875**	**708**	**119**	**287**
Total Requirements	**3,023**	**3,397**	**3,076**	**2,952**	**2,884**

Figure 1. Rate Increase and Revenue Increase Comparison



EXISTING RATES

Existing rates were set by the City in 2004 by Resolution No. 2-2004 and are based on the "City of Milwaukie Water Rate Study" dated June, 2003. This resolution provided for annual rate increases through Fiscal Year 2010-11. Table 4 shows the Fiscal Year 2010-11 rates which became effective July 1, 2010.

Table 4. Existing Water Rates

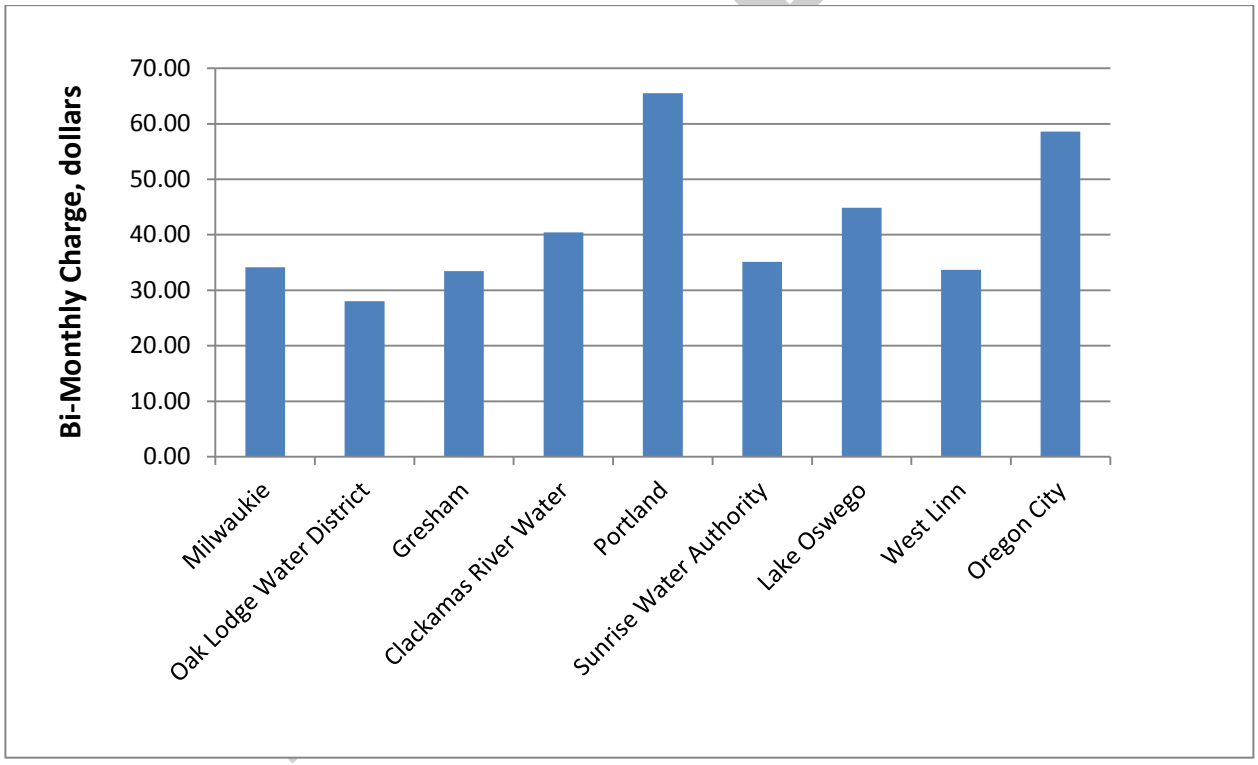
Description	Existing Rate	
	Bi-Monthly Base, $	$ per 100 ft^3
5/8" x 3/4" Meter	7.80	1.77
1" Meter	10.87	1.77
1.5" Meter	17.54	1.77
2" Meter	27.24	1.77
3" Meter	67.15	1.77
4" Meter	95.42	1.77
5" Meter	170.31	1.77
Low Income Rate	--	1.77
2" Standby	11.60	1.77
4" Standby	41.80	1.77
6" Standby	60.85	1.77
8" Standby	82.63	1.77
10" Standby	104.38	1.77
12" Standby	126.14	1.77

A typical single family user pays a bi-monthly fee $34.10 which includes the flat rate of $7.80 with the balance for water consumed which is almost 15 units of water (one unit is 100 cubic feet) during and average billing cycle.

Users in Milwaukie pay somewhat less than the average paid by consumers in the region. Figure 2 shows the comparable rates for a single family dwelling in communities near to the City. Several of the neighboring communities have incorporated multiple blocks for water usage to encourage conservation. For example, a user would pay a consumption charge up to a fixed amount of water use and then pay a higher consumption charge for water used in excess of that initial block rate.

For the City of Milwaukie, conservation of water will reduce energy use but the system currently has ample capacity and the water source aquifer is plentiful. The City's average water production is 2.4 mgd, the maximum day water production is currently 4.6 mgd while the water right is for 7.3 mgd. At this time there is no compelling reason to change the City's rate structure to include multiple blocks.

Figure 2. Comparable Rates for Water Service, 2010-11



CAPITAL IMPROVEMENT PLAN

A comprehensive review of the existing water system was completed as part of the master plan. The water system generally operates very well and provides an excellent level of service. However, much of the piping infrastructure is over 50 years old and selective replacement is essential to maintain the level of service. Evaluation of the system's capacity to supply fire flows was also completed. In the past, many water systems were developed without provisions for fire

flows, and therefore included smaller diameter pipes than are currently used. Because of the age of the Milwaukie system, there are over 10 miles of 4-inch diameter pipelines that simply cannot provide the level of fire protection that is the standard at this time.

A capital improvement plan is recommended as shown in Table 5 that includes replacement of the oldest pipelines, improvements to the Zone 3 Pump Station to meet fire flows, tank painting and upgrades, and pipeline extensions to serve the Dual Interest Areas A and B. The total capital plan has a total cost of $19.4 million in 2011 dollars.

Table 5. Capital Improvement Plan

Improvement Description	Cost, dollars
RENEWAL AND REPLACEMENT IMPROVEMENTS	
Replace 4-inch pipeline (pre-1960) with 8-inch Diameter	4,760,500
Periodic Well Maintenance	307,200
Replace 6-inch Diameter Pipeline (pre-1960)	10,625,500
EXISTING CAPITAL IMPROVEMENTS	
Upsize hydrant pipeline in Zone 1	72,400
Move existing hydrant from 6-inch to 10-inch pipeline	2,600
Upsize hydrant pipeline in Zone 2	135,800
Add two 1,750 Fire Flow Pumps to Zone 3 PS	768,000
Stanley Tank Painting	300,000
Elevated Tank Top coating and Access Hatch	60,000
BUILDOUT CAPITAL IMPROVEMENTS	
Install 8-inch diameter pipeline in Dual Interest Area A	1,371,100
Install 8-inch diameter pipeline in Dual Interest Area B	1,034,000
Total	**19,437,100**

Additional evaluation is planned to set the priorities and timing of these projects. It is however instructive to assess the rate structure as it relates to the City's capacity to finance improvements.

There are approximately 110 miles of pipelines in the City. Experience has shown that the useful life of water lines in the area is somewhere between 50 and 75 years. Assuming a service life of 75 years, the City should replace approximately one and a half miles per year to maintain service which would require a capital investment of nearly $2 million per year. As currently planned, capital expenditures of about $0.5 million annually will not allow the City to maintain the water infrastructure on a long term sustainable basis. Fortunately, the City can move deliberately towards a more sustainable level of capital expenditures because projects identified are essential but are not eminent emergencies.

Figure 3 shows the age of pipes in the City and there is a sizeable inventory of pipes that are older than 75 years.

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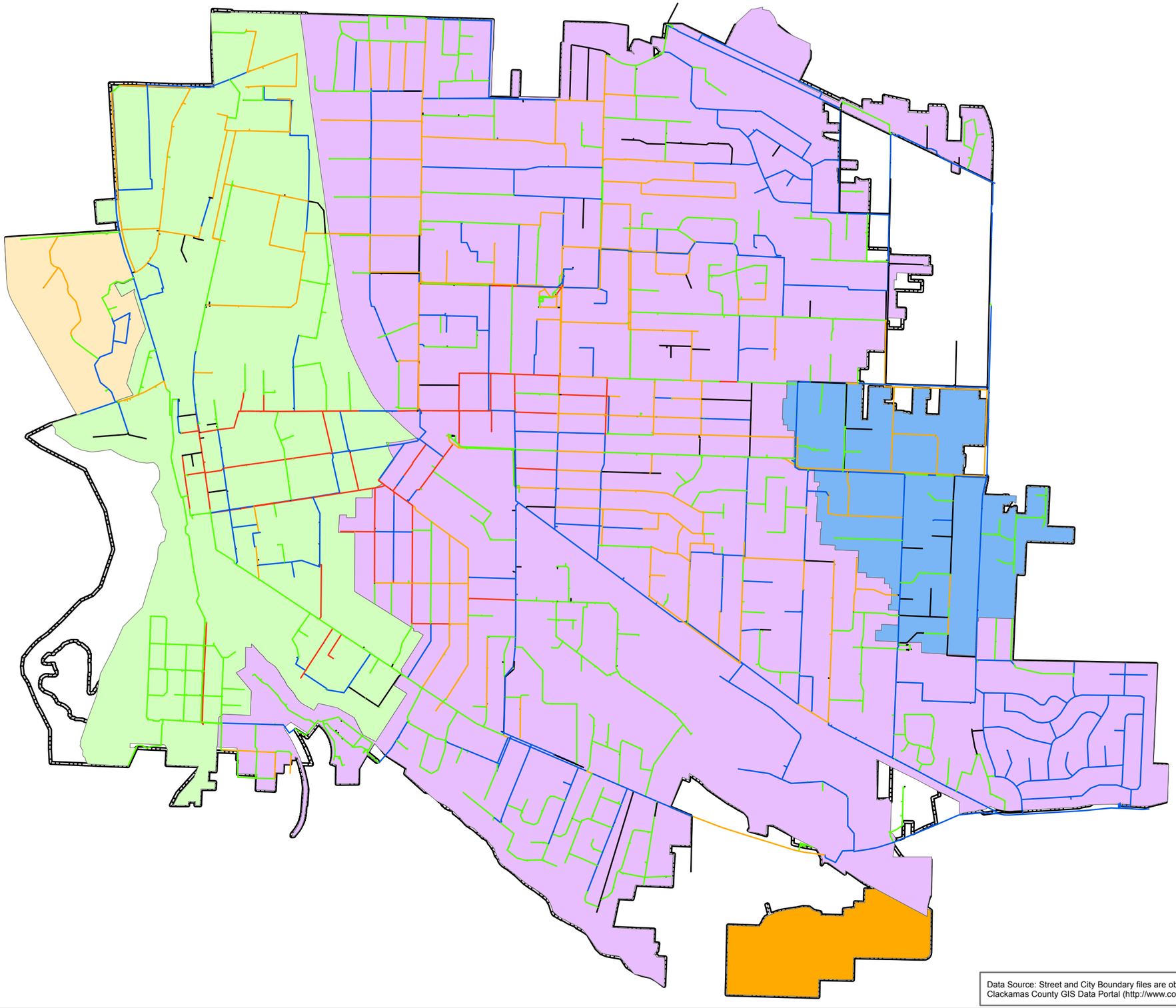
FIGURE 3

City of Milwaukie
Water Master Plan Update

EXISTING WATER SYSTEM PIPELINE AGE



N

0 700 1,400

Scale in Feet

LEGEND

Pipeline Age

- Age ≥ 75 Years
- 50 ≤ Age < 75 Years
- 40 ≤ Age < 50 Years
- Age < 40 Years
- Age Unknown

City's Pressure Zone Boundary

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Served by CRW
- City Boundary

Data Source: Street and City Boundary files are obtained from Clackamas County GIS Data Portal (http://www.co.clackamas.or.us/gis/)

WEST YOST ASSOCIATES
Consulting Engineers

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The recommended projects in the CIP are consistent with the City's Fiscal Policies which specifically states as follows:

> *The City will maintain its physical assets at a level adequate to protect the City's capital investment and to minimize future operating maintenance and replacement costs. The City recognizes that deferred maintenance increases future capital costs, thus placing a burden on future residents. Therefore, the CIP will include an orderly and systemic replacement of capital facilities and equipment.*

A capital improvement plan of $20 million as shown in Table 6, spread over 10 years, would be appropriate for the City if funding were available. The timing associated with these improvements as well as the project priorities need to be determine collectively and will also be influenced by the final rate decisions.

FINANCING

The City council has adopted specific policies related to financing of capital projects. The following two policy statements apply to the water system CIP:

> *The City will utilize "pay-as-you-go" funding for capital improvement expenditures considered recurring, operating or maintenance in nature whenever possible. The City may also utilize "pay-as-you-go" funding for capital improvements when current revenues and adequate fund balances are available or when issuing debt would adversely affect the City's credit rating or debt terms are unfavorable relative to the benefits derived from the capital improvement.*
>
> *The City will consider the use of debt financing for capital projects and equipment under the following circumstances:*
>
> *a. When the use of debt will result in total project cost savings that exceed borrowing costs.*
>
> *b. When the project's useful life will exceed the terms of the financing.*
>
> *c. When resources are deemed sufficient and reliable to service the long-term debt.*
>
> *d. When market conditions present favorable interest rates for City financing.*
>
> *e. When the issuance of debt will not adversely affect the City's credit rating.*

Pipe replacement projects involve routine underground construction that necessarily should be spread out over time to mitigate local impacts associated with this type of construction. Coordination with street resurfacing projects is also essential. It is not likely that debt financing of this type of project will incur any significant savings. Such savings are typically associated with large and more complex projects where work completed in a shorter time frame is more efficient and specialty contractors are necessary to complete the work. Furthermore, such projects sometimes can receive grants or special incentives that are not available for waterline replacement. Finally, it is essential that the ongoing rate structure for the water system support a sustainable level of capital investment to maintain the system efficacy.

Given the direction by the policies of the City council, the water fund should be adequate for operation and maintenance costs as well as a sustainable level of capital investment to replace system components that have reached the end of their useful life. A staffing analysis has been

completed which shows that the current level of staffing is essential for the functions that are required. Compared to nearby utilities, the level of staffing is slightly less than the Oak Lodge Water District, Clackamas River Water and Oregon City.

WATER FUND COST PROJECTIONS

Future water fund costs are anticipated to increase as a result of inflation. While the City has some control on these costs, inflationary pressure cannot be avoided in the long term. The alternative water fund projections include the following rates of inflation:

Personal Services	4.50%
Materials & Services (base)	2.00%
M&S (Franchise Fee to Streets)	2.00%
M&S (Electricity costs)	7.00%
Transfers to Other Funds	5.00%

Based on these costs, three different rate scenarios have been evaluated and are summarized in the following sections. These projections all use the spreadsheet developed by the City Finance Department and represents a model of anticipated revenues, costs and capital funding. It includes a reorganization of the City's budgeting format and consolidates and number of funds that had been tracked separately. This model can be used to evaluate alternative rate scenarios as policy makers assess options available to the City for meeting the water system funding needs.

Option No. 1

Option No. 1 is the projection used by the City in its latest budget and rate analysis. A 15.5 percent increase is included for Fiscal Year 2011-12 which is followed by smaller increases as stepping down to eight, seven and five percent as shown in Table 6. This option provides an average of about $560 thousand dollars per year for capital improvements. This is significantly less than the level of investment necessary to maintain the water system at a sustainable condition.

Option No. 2

Option No. 2 represents a more aggressive rate increase than Option No. 1 to provide more funding for capital improvements. After this fiscal year, a ten percent rate increase would be implemented for one year followed by an eight percent increase for four years as shown in Table 7. This scenario will allow the capital financing to increase up to about $1.5 million per year at the end of ten years.

Option No. 3

Option No .3 represents a most aggressive rate increases to provide a sustainable level of funding for capital improvements. After this fiscal year, a ten percent rate increase would be implemented for three years followed by an eight percent increase for two years as shown in Table 8. This scenario will allow the capital financing to increase up to about $2 million per year at the end of ten years.

Table 6. Option 1 - Long Term Revenue and Cost Projection, thousand dollars

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	PROJECTED																				
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Resources																					
Beginning fund balance	$287	$69	$93	$174	$225	$317	$410	$478	$537	$561	$547	$545	$551	$576	$594	$603	$602	$611	$631	$635	$622
Charges for services	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Water charges - base	2,212	2,212	2,555	2,759	2,952	3,100	3,255	3,353	3,454	3,558	3,665	3,830	4,022	4,183	4,350	4,524	4,705	4,940	5,138	5,344	5,558
Water charges - rate increases	-	343	204	193	148	155	98	101	104	107	165	192	161	167	174	181	235	198	206	214	278
Interest	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Miscellaneous	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Franchise fees (external)	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Total revenues	2,277	2,620	2,824	3,017	3,165	3,320	3,419	3,521	3,626	3,734	3,900	4,093	4,255	4,423	4,598	4,780	5,016	5,215	5,422	5,637	5,916
Total Resources	$2,564	$2,689	$2,917	$3,191	$3,390	$3,637	$3,829	$3,999	$4,163	$4,295	$4,447	$4,638	$4,806	$4,999	$5,192	$5,383	$5,618	$5,826	$6,053	$6,272	$6,538
Requirements																					
Personal services	$477	$602	$629	$657	$687	$718	$750	$784	$819	$856	$895	$935	$977	$1,021	$1,067	$1,115	$1,165	$1,217	$1,272	$1,329	$1,389
Materials & services (base)	246	251	256	261	266	271	276	282	288	294	300	306	312	318	324	330	337	344	351	358	365
M&S (Franchise Fee to Streets)	203	207	211	215	219	223	227	232	237	242	247	252	257	262	267	272	277	283	289	295	301
M&S (Electricity costs)	158	160	171	183	196	210	225	241	258	276	295	316	338	362	387	414	443	474	507	542	580
Transfers to other funds	940	987	1,036	1,088	1,142	1,199	1,259	1,322	1,388	1,457	1,530	1,607	1,687	1,771	1,860	1,953	2,051	2,154	2,262	2,375	2,494
Capital outlay																					
Scheduled capital projects	472	325	400	522	523	566	550	561	572	583	595	607	619	631	644	657	670	683	697	711	725
Maintenance Improvements	-	64	40	40	40	40	64	40	40	40	40	64	40	40	40	40	64	40	40	40	40
Total expenditures	2,496	2,596	2,743	2,966	3,073	3,227	3,351	3,462	3,602	3,748	3,902	4,087	4,230	4,405	4,589	4,781	5,007	5,195	5,418	5,650	5,894
Ending Fund Balance																					
Policy requirement (25%)	271	305	317	329	342	356	370	385	401	417	434	452	471	491	511	533	556	580	605	631	659
Over (under) Policy	(203)	(213)	(144)	(105)	(26)	54	108	152	160	130	111	99	105	103	92	69	55	51	30	(10)	(16)
Total ending fund balance	69	93	174	225	317	410	478	537	561	547	545	551	576	594	603	602	611	631	635	622	644
Total Requirements	$2,564	$2,689	2,917	$3,191	$3,390	$3,637	$3,829	$3,999	$4,163	$4,295	$4,447	$4,638	$4,806	$4,999	$5,192	$5,383	$5,618	$5,826	$6,053	$6,272	$6,538
	-11.10%	4.86%	8.48%	9.39%	6.24%	7.29%	5.28%	4.44%	4.10%	3.17%	3.54%	4.30%	3.62%	4.02%	3.86%	3.68%	4.37%	3.70%	3.90%	3.62%	4.24%
Utility Rate Information:																					
% water rate increases	0.00%	15.50%	8.00%	7.00%	5.00%	5.00%	3.00%	3.00%	3.00%	3.00%	4.50%	5.00%	4.00%	4.00%	4.00%	4.00%	5.00%	4.00%	4.00%	4.00%	5.00%
Water portion of average bill	$15.00	$17.30	$18.70	$20.00	$21.00	$22.10	$22.80	$23.50	$24.20	$24.90	$26.00	$27.30	$28.40	$29.50	$30.70	$31.90	$33.50	$34.80	$36.20	$37.60	$39.50

Table 7. Option 2 – Long Term Revenue and Cost Projection, thousand dollars

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	PROJECTED																				
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Resources																					
Beginning fund balance	$287	$69	$93	$26	$33	$127	$272	$361	$342	$196	$127	$116	$141	$229	$328	$437	$556	$716	$909	$1,110	$1,319
Charges for services	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Water charges - base	2,212	2,212	2,555	2,811	3,036	3,279	3,541	3,824	4,015	4,216	4,427	4,626	4,834	5,027	5,228	5,437	5,654	5,937	6,174	6,421	6,678
Water charges - rate increases	-	343	256	225	243	262	283	191	201	211	199	208	193	201	209	217	283	237	247	257	334
Interest	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Miscellaneous	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Franchise fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Franchise fees (external)	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Total revenues	2,277	2,620	2,876	3,101	3,344	3,606	3,890	4,082	4,284	4,496	4,696	4,905	5,099	5,301	5,511	5,729	6,013	6,251	6,499	6,757	7,092
Total Resources	$2,564	$2,689	$2,969	$3,127	$3,377	$3,733	$4,162	$4,443	$4,626	$4,692	$4,823	$5,021	$5,240	$5,530	$5,839	$6,166	$6,569	$6,967	$7,408	$7,867	$8,411
Requirements																					
Personal services	$477	$602	$629	$657	$687	$718	$750	$784	$819	$856	$895	$935	$977	$1,021	$1,067	$1,115	$1,165	$1,217	$1,272	$1,329	$1,389
Materials & services (base)	246	251	256	261	266	271	276	282	288	294	300	306	312	318	324	330	337	344	351	358	365
M&S (Franchise Fee to Streets)	203	207	211	215	219	223	227	232	237	242	247	252	257	262	267	272	277	283	289	295	301
M&S (Electricity costs)	158	160	171	183	196	210	225	241	258	276	295	316	338	362	387	414	443	474	507	542	580
Transfers to other funds	940	987	1,036	1,088	1,142	1,199	1,259	1,322	1,388	1,457	1,530	1,607	1,687	1,771	1,860	1,953	2,051	2,154	2,262	2,375	2,494
Capital outlay																					
Scheduled capital projects	472	325	600	650	700	800	1,000	1,200	1,400	1,400	1,400	1,400	1,400	1,428	1,457	1,486	1,516	1,546	1,577	1,609	1,641
Maintenance Improvements	-	64	40	40	40	40	64	40	40	40	40	64	40	40	40	40	64	40	40	40	40
Total expenditures	2,496	2,596	2,943	3,094	3,250	3,461	3,801	4,101	4,430	4,565	4,707	4,880	5,011	5,202	5,402	5,610	5,853	6,058	6,298	6,548	6,810
Ending Fund Balance																					
Policy requirement (25%)	271	305	317	329	342	356	370	385	401	417	434	452	471	491	511	533	556	580	605	631	659
Over (under) Policy	(203)	(213)	(292)	(297)	(216)	(85)	(10)	(44)	(206)	(291)	(319)	(312)	(243)	(164)	(75)	23	160	329	505	688	942
Total ending fund balance	69	93	26	33	127	272	361	342	196	127	116	141	229	328	437	556	716	909	1,110	1,319	1,601
Total Requirements	$2,564	$2,689	2,969	$3,127	$3,377	$3,733	$4,162	$4,443	$4,626	$4,692	$4,823	$5,021	$5,240	$5,530	$5,839	$6,166	$6,569	$6,967	$7,408	$7,867	$8,411
	-11.10%	4.86%	10.41%	5.32%	8.00%	10.54%	11.49%	6.75%	4.12%	1.43%	2.79%	4.11%	4.36%	5.53%	5.59%	5.60%	6.54%	6.06%	6.33%	6.20%	6.92%
Utility Rate Information:																					
% water rate increases	0.00%	15.50%	10.00%	8.00%	8.00%	8.00%	8.00%	5.00%	5.00%	5.00%	4.50%	4.50%	4.00%	4.00%	4.00%	4.00%	5.00%	4.00%	4.00%	4.00%	5.00%
Water portion of average bill	$15.00	$17.30	$19.00	$20.50	$22.10	$23.90	$25.80	$27.10	$28.50	$29.90	$31.20	$32.60	$33.90	$35.30	$36.70	$38.20	$40.10	$41.70	$43.40	$45.10	$47.40

Table 8. Option 3 – Long Term Revenue and Cost Projection, thousand dollars

DRAFT

	PROJECTED																				
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Resources																					
Beginning fund balance	$287	$69	$93	$77	$3	$44	$27	$109	$155	$197	$240	$264	$248	$318	$410	$524	$661	$859	$1,105	$1,375	$1,670
Charges for services	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Water charges - base	2,212	2,212	2,555	2,862	3,205	3,526	3,879	4,267	4,480	4,704	4,939	5,161	5,393	5,609	5,833	6,066	6,309	6,624	6,889	7,165	7,452
Water charges - rate increases	-	343	307	343	321	353	388	213	224	235	222	232	216	224	233	243	315	265	276	287	373
Interest	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Miscellaneous	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Franchise fees (external)	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Total revenues	2,277	2,620	2,927	3,270	3,591	3,944	4,333	4,547	4,772	5,008	5,231	5,464	5,681	5,906	6,140	6,384	6,700	6,966	7,243	7,531	7,905
Total Resources	$2,564	$2,689	$3,020	$3,347	$3,594	$3,988	$4,360	$4,656	$4,927	$5,205	$5,471	$5,728	$5,929	$6,224	$6,550	$6,908	$7,361	$7,825	$8,348	$8,906	$9,575
Requirements																					
Personal services	$477	$602	$629	$657	$687	$718	$750	$784	$819	$856	$895	$935	$977	$1,021	$1,067	$1,115	$1,165	$1,217	$1,272	$1,329	$1,389
Materials & services (base)	246	251	256	261	266	271	276	282	288	294	300	306	312	318	324	330	337	344	351	358	365
M&S (Franchise Fee to Streets)	203	207	211	215	219	223	227	232	237	242	247	252	257	262	267	272	277	283	289	295	301
M&S (Electricity costs)	158	160	171	183	196	210	225	241	258	276	295	316	338	362	387	414	443	474	507	542	580
Transfers to other funds	940	987	1,036	1,088	1,142	1,199	1,259	1,322	1,388	1,457	1,530	1,607	1,687	1,771	1,860	1,953	2,051	2,154	2,262	2,375	2,494
Capital outlay																					
Scheduled capital projects	472	325	600	900	1,000	1,300	1,450	1,600	1,700	1,800	1,900	2,000	2,000	2,040	2,081	2,123	2,165	2,208	2,252	2,297	2,343
Maintenance Improvements	-	64	40	40	40	40	64	40	40	40	40	64	40	40	40	40	64	40	40	40	40
Total expenditures	2,496	2,596	2,943	3,344	3,550	3,961	4,251	4,501	4,730	4,965	5,207	5,480	5,611	5,814	6,026	6,247	6,502	6,720	6,973	7,236	7,512
Ending Fund Balance																					
Policy requirement (25%)	271	305	317	329	342	356	370	385	401	417	434	452	471	491	511	533	556	580	605	631	659
Over (under) Policy	(203)	(213)	(241)	(327)	(299)	(330)	(262)	(231)	(205)	(178)	(171)	(205)	(154)	(82)	13	128	303	525	770	1,039	1,404
Total ending fund balance	69	93	77	3	44	27	109	155	197	240	264	248	318	410	524	661	859	1,105	1,375	1,670	2,063
Total Requirements	$2,564	$2,689	3,020	$3,347	$3,594	$3,988	$4,360	$4,656	$4,927	$5,205	$5,471	$5,728	$5,929	$6,224	$6,550	$6,908	$7,361	$7,825	$8,348	$8,906	$9,575
	-11.10%	4.86%	12.31%	10.83%	7.38%	10.96%	9.33%	6.79%	5.82%	5.64%	5.11%	4.70%	3.51%	4.98%	5.24%	5.47%	6.56%	6.30%	6.68%	6.68%	7.51%
Utility Rate Information:																					
% water rate increases	0.00%	15.50%	12.00%	12.00%	10.00%	10.00%	10.00%	5.00%	5.00%	5.00%	4.50%	4.50%	4.00%	4.00%	4.00%	4.00%	5.00%	4.00%	4.00%	4.00%	5.00%
Water portion of average bill	$15.00	$17.30	$19.40	$21.70	$23.90	$26.30	$28.90	$30.30	$31.80	$33.40	$34.90	$36.50	$38.00	$39.50	$41.10	$42.70	$44.80	$46.60	$48.50	$50.40	$52.90

RECOMMENDED RATES

For the three options presented in the previous section, rates increases will be required to generate adequate revenue. Table 9 shows the rate increases for each option for the next ten years.

Table 9. Rate Increase for Funding Options

	Option 1		Option 2		Option 3	
Fiscal Year	Increase, %	Rate, $/mo.	Increase, %	Rate, $/mo.	Increase, %	Rate, $/mo.
2011-12	15.5	17.30	15.5	17.30	15.5	17.30
2012-13	8.0	18.70	10.0	19.00	12.0	19.40
2013-14	7.0	20.00	8.0	20.50	12.0	21.70
2014-15	5.0	21.00	8.0	22.10	10.0	23.90
2015-16	5.0	22.10	8.0	23.90	10.0	26.30
2016-17	3.0	22.80	8.0	25.80	10.0	28.90
2017-18	3.0	23.50	5.0	27.10	5.0	30.30
2018-19	3.0	24.20	5.0	28.50	5.0	31.80
2019-20	3.0	24.90	5.0	29.9	5.0	33.40
2020-21	4.5	26.00	4.5	31.20	4.5	34.90

As shown in Table 9, a substantial increase is needed for the next five years to increase the City's capacity to fund capital improvements to the water system. However, the city can maintain its water system at a sustainable level without borrowing and incurring additional expenses related to interest costs.

While the rate increase is substantial, a proactive program to replace aged piping will save future expenditures. Experience in the industry has clearly shown that a proactive replacement program saves money. Once a significant percentage of a utility system exceeds its useful life, system breaks and leaks will increase and emergency response is more expensive and causes more public disruption. The deterioration of the system will continue to the degree where a pay as you go financing program will no longer be viable because the backlog of required work will be overwhelming.

(To be completed after review with the City and the City Utility Advisory Board)

SYSTEM DEVELOPMENT CHARGE

System development charges (SDC) were last updated by the City in 2006 through Resolution 16-2006. This update was based on the "Water & Stormwater SDC Study, City of Milwaukie" dated April 2006. More important, the referenced study was premised on the "City of Milwaukie Water System Master Plan" dated January 2001 which provided the capital improvement plan and an assessment of system capacity. System capacity was premised on historical population growth and assumed continued growth with a buildout water system capacity of 3.9 mgd which would be reached by 2015. The existing SDC for a single family dwelling with a 5/8"-3/4" meter is $971.

The system development charge is comprised of two parts which are included in the existing methodology adopted by the City. The first part is the reimbursement fee which is designed to recover costs associated with infrastructure that has been constructed and includes capacity for future development. The second part is the improvement fee which provides for the recovery of costs that are planned for capital improvements that will include capacity for future development. Both of these fees are addressed in the following sections.

Reimbursement Fee

Currently the City produces an average of 2.4 mgd of water to serve the existing users. A comprehensive analysis of future water demand was completed based on available vacant land. Including the existing City vacant land and serving both Dual Interest Areas A and B, the total annual production that is required will be 2.8 mgd at buildout. Modeling of the water distribution system confirmed that the system has the necessary capacity to serve these areas at buildout. Thus, growth of about 17 percent can be accommodated by the existing water system with the improvements that are included in the capital improvement plan.

As shown in Table 2, the City currently has 10,794 equivalent single family users. This includes all system users but normalizes all users as if they were average single family dwellings. With the 17 percent growth in water demand required to serve the vacant land, the existing water system has the capacity to serve the equivalent of 12,600 single family dwellings.

In 2006, the original cost of the water system was $12,764,600 which had received grant assistance of $1,962,400. Since that time, the City has constructed and additional $2,227,200 in capital improvements. Thus the net investment in water system plant, excluding grants, is $13,029,400. Given that 12,600 equivalent single family dwellings can be served by this system, the existing investment is $1,030 per equivalent single family dwelling.

This reimbursement fee represents a significant increase from the existing fee. The reason for this increase is that the existing investment is spread over less growth than had previously been projected. The City's inventory of vacant land that can be developed is only about 90 acres. It is possible that in the long term, the density of development could increase and support additional population growth. However, experience has also shown that the use of more efficient water fixtures and general water conservation have tended to reduce the amount of water used.

Improvement Fee

Projects that contribute to the capacity of the system to serve existing and future users can be included in the improvement fee. Based on the capital improvements shown in Table 6, only those projects that provide an integral part of the water distribution system have been included in the development of the improvement fee. Maintenance projects and fire hydrant improvement projects have been excluded from the eligible project list. For those projects that are an integral part of the water distribution system, 16.7 percent of their costs have been included in the development of the improvement fee which represents the percentage growth that is available in the capacity of the system.

Since pay as you go financing is anticipated, an adjustment is included for each fiscal year to represent the contribution that new users will pay towards capital improvements. For the twenty

year planning period, the planned capital expenditure per equivalent single family dwelling has been deducted from the cost per ESFD to arrive at the improvement fee. Therefore, users that connect soon will contribute to the capital improvements through rates and therefore are assessed a lower improvement fee. Table 10 shows the improvement fee based on the current planned level of capital financing that is included in the rates.

Table 10. Improvement Fee

Fiscal Year	Improvement Fee per ESFD,$
2011-12	1,000
2012-13	1,010
2013-14	1,030
2014-15	1,050
2015-16	1,080

The improvement fee will need to be assessed once the rates are set and the total capital financing has been determined.

Total SDC

The total SDC is the combination of the reimbursement fee, the improvement fee, and the administrative fee. The administrative fee has historically been 7.66 percent and no change is proposed as part of this analysis as shown in Table 11.

Table 11. Recommended System Development Charge

Fiscal Year	Reimbursement	Fee per ESFD, dollars		
		Improvement	Administrative Fee	Total SDC
2011-12	1,030	1,000	160	2,190
2012-13	1,030	1,010	160	2,200
2013-14	1,030	1,030	160	2,220
2014-15	1,030	1,050	160	2,240
2015-16	1,030	1,080	160	2.270

The charge for larger connections will continue to be based on the standard meter factors as shown below:

Meter Size	Meter Factor
5/8" x 3/4"	1
3/4" x 3/4"	1.5
1"	2.5
1.5"	5
2"	8
3"	16
4"	25
6"	50
8"	80
10"	115
12"	225

The SDC for a larger connection will be equal to the SDC for 5/8" by ¾" meter as shown in Table 11 and multiplied by the corresponding meter factor.

2 Million Dollar/Year Capital Improvement Plan Summary

Fiscal Year		Equal Rate Increase -1 Year				Equal Rate Increase - 10 Year			
		Rate Increase	Water Rate		Available Capital	Rate Increase	Water Rate		Available Capital
			Increase	Total			Increase	Total	
Current Year		15.50%	--	$17.30	$389	15.50%	--	$17.30	$389
2012-13	+1	70.00%	$12.10	$29.40	$2,040	11.00%	$1.90	$19.20	$571
2013-14	+2	3.25%	$1.00	$30.40	$2,080	11.00%	$2.10	$21.30	$778
2014-15	+3	3.25%	$1.00	$31.40	$2,121	11.00%	$2.30	$23.60	$984
2015-16	+4	3.25%	$1.00	$32.40	$2,162	11.00%	$2.60	$26.20	$1,191
2016-17	+5	3.25%	$1.10	$33.50	$2,229	11.00%	$2.90	$29.10	$1,421
2017-18	+6	3.25%	$1.10	$34.60	$2,248	5.75%	$1.70	$30.80	$1,604
2018-19	+7	3.25%	$1.10	$35.70	$2,292	5.75%	$1.80	$32.60	$1,810
2019-20	+8	3.25%	$1.20	$36.90	$2,337	5.75%	$1.90	$34.50	$2,017
2020-21	+9	3.25%	$1.20	$38.10	$2,383	5.75%	$2.00	$36.50	$2,223
2021-22	+10	3.25%	$1.20	$39.30	$2,454	5.75%	$2.10	$38.60	$2,454
First 5 Year Average		16.60%	$3.24		$2,126	11.00%	$2.36		$989
10 Year Average		9.93%	$2.20		$2,235	8.38%	$2.13		$1,505

Fiscal Year		Equal Rate Increase -5 Year				Equal Fee Increase -5 Year			
		Rate Increase	Water Rate		Available Capital (1000's)	Rate Increase	Water Rate		Available Capital (1000's)
			Increase	Total			Increase	Total	
Current Year		15.50%	--	$17.30	$389	15.50%	--	$17.30	$389
2012-13	+1	15.25%	$2.60	$19.90	$735	18.79%	$3.25	$20.55	$735
2013-14	+2	15.25%	$3.00	$22.90	$1,105	15.82%	$3.25	$23.80	$1,105
2014-15	+3	15.25%	$3.50	$26.40	$1,475	13.66%	$3.25	$27.05	$1,475
2015-16	+4	15.25%	$4.00	$30.40	$1,845	12.01%	$3.25	$30.30	$1,845
2016-17	+5	15.25%	$4.60	$35.00	$2,229	10.73%	$3.25	$33.55	$2,229
2017-18	+6	2.00%	$0.70	$35.70	$2,248	3.00%	$1.05	$34.60	$2,248
2018-19	+7	2.00%	$0.70	$36.40	$2,292	3.00%	$1.00	$35.60	$2,292
2019-20	+8	2.00%	$0.70	$37.10	$2,338	3.00%	$1.10	$36.70	$2,338
2020-21	+9	2.00%	$0.70	$37.80	$2,383	3.00%	$1.10	$37.80	$2,383
2021-22	+10	2.00%	$0.80	$38.60	$2,454	3.00%	$1.10	$38.90	$2,454
First 5 Year Average		15.25%	$3.54		$1,478	14.20%	$3.25		$1,478
10 Year Average		8.63%	$2.13		$1,911	8.60%	$2.16		$1,911

Fiscal Year		Equal Rate Increase - 10 Year , 1.5M @ 5 Year				Equal Fee Increase - 10 Year, 1.5M @ 5 Year			
		Rate Increase	Water Rate		Available Capital (1000's)	Rate Increase	Water Rate		Available Capital (1000's)
			Increase	Total			Increase	Total	
Current Year		15.50%	--	$17.30	$389	15.50%	--	$17.30	$389
2012-13	+1	12.50%	$2.20	$19.50	$625	14.45%	$2.50	$19.80	$625
2013-14	+2	12.50%	$2.40	$21.90	$885	12.63%	$2.50	$22.30	$885
2014-15	+3	12.50%	$2.70	$24.60	$1,145	11.21%	$2.50	$24.80	$1,145
2015-16	+4	12.50%	$3.10	$27.70	$1,405	10.08%	$2.50	$27.30	$1,405
2016-17	+5	12.50%	$3.50	$31.20	$1,688	9.16%	$2.50	$29.80	$1,688
2017-18	+6	4.50%	$1.40	$32.60	$1,817	5.75%	$1.70	$31.50	$1,817
2018-19	+7	4.50%	$1.50	$34.10	$1,970	5.75%	$1.80	$33.30	$1,970
2019-20	+8	4.50%	$1.50	$35.60	$2,123	5.75%	$1.90	$35.20	$2,123
2020-21	+9	4.50%	$1.60	$37.20	$2,276	5.75%	$2.00	$37.20	$2,276
2021-22	+10	4.50%	$1.70	$38.90	$2,454	5.75%	$2.10	$39.30	$2,454
First 5 Year Average		12.50%	$2.78		$1,150	11.51%	$2.50		$1,150
10 Year Average		8.50%	$2.16		$1,639	8.63%	$2.20		$1,639